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Parasitic Mange in Horses.

Last week we printed a summary of a report upon parasitic mange, which Mr. Dunstan, as Veterinary Inspector of the Liskeard district, presented to the Cornwall Contagious Diseases (Animals) Committee. Apparently the Cornwall Parasitic Mange Order is inadequate, and everyone who understands the disease will agree with Mr. Dunstan in requiring a rigid isolation Another alteration of the local Order which he suggests—viz., the exclusion of symbiotic mange from its provisions—is more open to criticism. We believe that this would be a mistake. It would be certain to cause many disputes, and it should be remembered that the distribution of the various mange parasites is not always constant, that more than one species may co-exist upon the same animal, and that the clinical differentiation of symbiotic mange from sarcoptic and psoroptic is not so easy in some cases as it certainly is in most. Again, while symbiotic mange is the least serious of the equine acariases, it is also the most easily cured, and really requires very little time. Parasitic mange in horses should be scheduled wherever it exists, but, both for administrative and economic reasons, all three forms should be scheduled together.

In London a Parasitic Mange Order is especially necessary. Very many parts of the country possess Orders; London has none. Yet no locality needs such an Order more, and the urgency of the need is increasing. Last winter parasitic mange was more prevalent in London than it has been for twenty years past. Horse-owners were content with the usual half-measures, and no lasting good was done. There is no reason to suppose that the disease will be less prevalent this winter; there is good reason to fear that infected rugs used last year may render it more so. But whatever ravages the disease may make in the London stables, no serious attempt will be made to check it until its rational treatment is enforced by law.

Undoubtedly a Mange Order in London, as elsewhere, would cause some immediate loss to horse-owners, and, at first, some irritation. The monetary loss is nothing compared with the monetary gain that would result from the suppression of a disease which interferes so much with the usefulness of horses, and not uncommonly is an indirect cause of death. This irritation would subside as the reason and purpose of the Order became comprehended, and its effects became apparent. Legislation against disease is always an educational process. Owners do not appreciate many points in connection with a disease until those points are brought home to them by legislation, and it may safely be said that the average owner of town-working horses will never understand—and certainly never attempt to eradicate—equine mange, until coercion is applied.

The veterinary profession would certainly welcome a Mange Order. It would increase the usefulness of the practitioner to his client, by enabling him to deal satisfactorily with a disease which, without an Order, is one of the most annoying and discouraging of common affections. Dealing with an outbreak of mange in the stable of an average horse-owner uncontrolled by legislation, the practitioner is almost helpless; he may succeed in restraining the disease to some extent, but he cannot hope to eradicate it. When legislation is imposed, the practitioner can assist the owner—but not till then. The treatment of mange has been well understood for many years, and every practitioner can carry it out: the only obstacle is the ignorance and carelessness of the horse-owner; and the disease will continue in horses, and occasionally infect men, until the law interferes.

Apart from the direct economic necessity for legislation against equine mange, we might hope to see other indirect advantages result from the step.

The absolute diagnosis of mange depends, of course, upon the microscope, though it does not require either an expensive instrument, nor any great skill in manipulation. A Mange Order entails a more frequent use of the microscope, and might result in some independent observations being made upon the many obscure points in the life-history of the mange parasites, regarding which our knowledge is still far from complete. Again, some practitioners might be induced to extend their observations to another subject, which is certainly much more difficult, but offers even more material to the investigator—viz., the dermatomycoses of the horse.

Veterinary dermatology is a wide field for research work, which has been grievously neglected by the bulk of the profession in this country; one of its branches, at least—the dermatomycoses—may soon be forced upon our notice by the medical profession, and anything which might lead our members to pay more attention to it would be welcome.

But the economic necessity is, after all, the main one, and that is becoming more pressing. The experience of many years has proved that horse-owners will not deal seriously with mange until compelled to do so. The disease will continue its ravages until compulsion is resorted to, and the losses it occasions render the need for compulsion urgent.

TUMOUR OF THE VAGINA.

I was called a few months ago to a two-year-old Shire filly that was reported to be for some time wasting. She was suffering from acute pain on the evening I was summoned to see her, and unable to pass any urine except in small dribbling quantities. When I saw her she was in a bath of perspiration, continually lying and rising, and when on her feet would strain to urinate and pass a few drops which ran down her legs, the latter being blistered right down to the hocks, showing evidence of a long-standing mischief.

In examining the vagina I was greatly surprised at finding the passage completely blocked with an enormous growth, having enlarged the passage into an enormous size. Having had my hand over the tumour I found a large thick peduncle extending from the roof of the vagina right above the os uteri—about eight inches in length. I tried to pull the tumour through the passage, but it was impossible owing to its enormous size. I had nothing with me in the shape of any kind of an instrument, and being some miles away from home I decided to do the best I could under the circumstances, as it was evident that the mare could not live much longer in the state she was, As I failed to extract any urine from the bladder, the latter being pressed down too much with the weight and size of the tumour, being unable to remove it through the vulva in one mass, I decided to remove it in parts by tearing it off with my hand; this caused a profuse hæmorrhage after removing three large pieces. The remainder was pulled through which was hanging to the peduncle outside the vulva, still bleeding profusely. I then passed a strong soft cord carbolised, with a non-slipping knot round the peduncle and pushed it right to the root; then I tightened it firmly with one end of the cord in my left hand inside the vagina and the other end in my right hand outside. This having completely arrested the bleeding, I removed the tumour with an embryotomy knife as far up as I could, only leaving a few inches of the peduncle below the ligature. The peduncle was of the thickness of a man's wrist, and the tumour was weighed which turned the scale with eleven pounds.

On my visit in two days I found the filly doing well. I washed her out, removed the ligature which came off easily, with the remainder of the peduncle sloughed away. The filly has done well ever since. I may state that immediately the tumour was removed she gave a sigh of relief and was urinating with perfect ease the following day.

The reason I am quoting this case is the enormous size of the pendunculated polypus. It looked like a fibrous tumour, but I never had it examined although I intended sending portion of it away to the College. I should like to know if anyone has seen such a case in a mare. This is the first I saw or heard of, except small ones in old cows.

O. Trevor Williams.

Llangefni.

ABSTRACTS FROM FOREIGN JOURNALS.

Primary Tuberculosis of the Mamma in a Cow.

Tuberculosis of the mamma is generally secondary to tuberculous lesions in other organs, but sometimes the mamma is primarily invaded by the bacilli. According to Bang, direct infection of the mamma occurs as a result of milking, by reason of the solutions of continuity which are often found upon the teats.

According to Nocard, the mamma during lactation has little resistance against microbial infections; the mucous membrane of the excretory canals is an inefficacious barrier against invading bacilli, and infection may take place when the mucous membrane is intact.

Meoni of Padoue records, in *Il Moderno Zooiatro* the result of a post-mortem examination of a cow which had been killed on account of chronic mastitis. A notable augmentation of the left posterior quarter of the mamma was found, with induration and hypertrophy of the corresponding supra-mammary gland and of the gland of the anterior mediastinum. No alteration either of other glands or of neighbour-organs could be discovered.

Bacterial examination confirmed the diagnosis of a primary tubercular mastitis.

The origin of the infection is unknown, but, as the animal had co-habited with other tuberculous cows, it is surmised that contaminated straw was probably the infective agent.—*Le Bulletin Vét.*

Acute Tympanitis in Cattle.

Dommerhold, in the *Schweizer Archiv.*, advises that cattle affected with acute tympanitis should be placed upon a strongly inclined plane, in order to elevate the fore part of the body as much as possible. He even suggests that the fore feet should, if possible, be placed in the manger. By thus altering the position of the body, the anatomical relations of the œsophageal groove and the rumen are modified, and eructations generally come on immediately. Since adopting this method, Dommerhold has never found puncture of the rumen necessary. He calls attention, also, to a Swiss practice of driving tympanitic cattle up a rather steep mountain, of which it is said that, in most cases, the animals have recovered upon reaching the summit.—*Annales de Méd. Vét.*

W. R. C.

[The wisdom of the Swiss method just alluded to is questioned by some high authorities. It is not stated how often Dommerhold has practised his own plan—but it seems worthy of trial.—Trans.].

The Board of Agriculture and Fisheries have appointed Charles Adair Orr, and Sir Courtenay Honywood, Bart., to be Temporary Assistant Inspectors for the purposes of the Diseases of Animals Acts, and Geoffrey Tom Matthews, M.R.C.V.S., to be an Assistant Veterinary Inspector (Non-Established) for the purposes of the above-mentioned Acts. Oct. 23.

TRANSVAAL VETERINARY MEDICAL ASSOCIATION.

GLANDERS AND ITS ERADICATION.*

By C. E. GRAY, M.R.C.V.S.
Principal Veterinary Officer, Department of Agriculture.

(*Concluded from p. 270*).

At death in cases of glanders, the following lesions are observable, an ulcerating sore is present at the site of the inoculation, with much enlargement of the nearest group of lymphatic glands, the testicles are much swollen and adherent to the scrotum and more or less necrosed, there may also be ulceration of the scrotum, and nodules of a whitish colour are present in the spleen, although the latter may not be present when the case is very acute and due to intra-peritoneal inoculation. The presence of all these lesions, however, does not justify the diagnosis of glanders until the specific organism has been grown on a potato culture and identified. All this work is a little outside of the province of the everyday practitioner, and it is best left in the hands of an experienced bacteriologist when one is available, as is fortunately the case in this Colony. Meanwhile we may return to the stable from which the suspect has been removed, and consider the next steps to be taken there. As an animal presenting clinical lesions suspicious of glanders has just been removed from the stable, it is best to defer the application of the mallein test for at least six days, unless all in-contacts are to be tested twice, in which case testing may, of course, begin at once. If testing is deferred for six days and other accommodation is available, the in-contacts should be moved thereto and examined carefully every day, in order to make certain that no doubtful animals are amongst them. If this can be done the interval suggested will suffice for the establishment of infection in the case of any animal which has been exposed to infection immediately prior to the removal of the suspect, and in this way all healthy animals can be separated from doubtful and infected animals by the application of a single test, whereas, if the animals are tested at once they will have to be subjected to a daily examination for the next three weeks till the second test is made, in order to be quite certain that no infected animal has escaped detection. After the application of the first test, we will probably find ourselves in possession of evidence which will assist us materially in coming to a conclusion whether the removed suspect was or was not infected with glanders. If it was, there is every likelihood that typical reactors will be present amongst the remaining apparently healthy horses, most likely amongst the neighbours of the suspect, and here we may conveniently consider what constitutes a typical reaction. What we may deduce in the case of doubtful reactors; what constitutes a normal reaction, and later what course should be adopted in dealing with typical and doubtful reactors.

To begin with, any animal whose temperature is under 102 F. at the time of inoculation, which is kept at rest during the application of the test, and is protected from draughts, may be regarded as a reactor when the temperature during the next fifteen hours after inoculation with 1 c.c. of mallein gradually rises more than 2·5 F. above the highest control temperature taken previous to inoculation, showing a curve similar to those submitted herewith, when a tense, slowly subsiding swelling of a painful and sensitive character of over four inches in diameter forms at the seat of inoculation, and when marked constitutional disturbances, such as loss of appetite, blowing, dullness, staring of the coat and muscular stiffness follows inoculation. Of these symptoms my own personal experience leads me to attach much importance to the length of time that the swelling persists and to its character, and if an inoculation swelling continues to increase in size up to the 48 hours after injection, even if the maximum dimensions are not excessive, if it does not disappear for three or four days, and if it is tense and painful and its development is attended by cording of the surrounding lymphatics, such an animal must be regarded with grave suspicion, and quite apart from any consideration of the temperature of an animal, either before or after inoculation, the appearance of such swelling stamps an animal as a suspect.

Post-mortem evidence inclines me to believe that the local reaction to mallein is most marked in recently infected animals, and I think it will generally be found that animals infected with recent pulmonary glanders, in which the lesions are small and insignificant, often react locally to a much more marked degree than other animals in which infection is found on post-mortem to be well established and of longer standing. The character of the local reaction will also be found to depend to some extent on the physical condition of the animal, and is always much better marked in healthy looking animals, in which there is a certain amount of fat in the subcutaneous connective tissue, than it is in animals which are thin and hide bound. It appears, moreover, to be affected somewhat by the atmospheric temperature, and generally speaking it will be found that the average dimensions of the local swellings in a number of animals subjected to the mallein test, is less in cold weather than it is when the weather is warm.

Passing on from reacting to non-reacting animals, an animal may be considered free from infection when its physical condition is good, when the local reaction does not exceed four inches, when it is not particularly sensitive and disappears within thirty hours, and when the temperature after inoculation does not rise more than 2 F. above the maximum control temperature taken prior to test, but between the animals that react typically and those which give a normal reaction, we generally find a fair number in which the reaction cannot be looked upon as normal, nor yet is it of such a nature that we feel that we are justified in condemning them as glandered, and it is animals of this class which cause a considerable amount of perplexity to the practitioner, as he is often at a loss to know whether the reaction is indicative of infection or whether it is due to an idiosyncracy of the individual. For instance, cases occur in which the temperature rises considerably beyond the safety limit, while the swelling remains inconsiderable in size, comparatively insensitive, and disappears entirely within thirty hours. In such a case if we had been taking the temperature of such an animal regularly every hour or every two hours, instead of at the 9th, 12th, and 15th hours, as is usually the custom, we would probably have discovered that the temperature curve was of such a character that it might be regarded as belonging either to the class of "slight atypical" reactions, or to that of "great atypical" reactions, of which I show examples recorded and described by Inspector General Furtuna, of the Roumanian Sanitary Service, and referred to by him in his report on the use of Tuberculin and Mallein, read before the Buda Pesth Conference. Animals giving reaction such as these, and not showing any constitutional disturbance after test, are in all likelihood free from glanders infection; nevertheless, they should always be tested again after an interval of 21 days.

In other cases again an animal may have an abnormally high temperature, similar to that to which I have

* Read at the meeting at Johannesburg, June 27.

just referred, which may be accompanied by a swelling of considerable dimensions, greatly exceeding the size of that usually seen in a healthy horse, but if the swelling is evanescent, only slightly tender and soft to the touch, and the animal itself displays no signs of malaise, this is in all probability the atypical reaction of a healthy horse, but this too is a case calling for a re-test after 21 days. On the other hand, cases crop up in which the maximum temperature is under 103 F. but in which the swelling is nearly, if not quite, up to the maximum measurement for an infected animal, and is tense, painful and persistent, and does not diminish within the first 48 hours. If such an animal also shows any constitutional disturbance it is undoubtedly a suspect and should not be liberated except after repeated tests, and not then unless its physical condition leaves nothing to be desired. Again, in rare instances, an animal with an abnormal temperature reaction may show no local swelling during the first 24 hours, but later a typical and slowly subsiding swelling may make its appearance ; such reactions are unusual, but they are suspicious, and I remember the case of one animal which gave such a reaction which subsequently developed clinical symptoms of glanders while awaiting the application of a second test.

Having discussed reactions at some length, we may now go on to consider how reacting animals, and those giving a doubtful reaction had best be dealt with :

First. Animals giving a reaction which is typical in every respect, and which in addition present any suspicious symptoms such as general unthriftiness or chronic cough should, in my opinion, be destroyed without further delay, particularly when provision is made by legislation for the payment of compensation.

Second. Animals giving a thermal and local reaction, but which are in good condition and which have shown no signs of constitutional disturbance while under test, may I think be held over at the discretion of the testing officer for a second test, but if a reaction again occurs then they too should be destroyed.

Third. Animals in which the application of the mallein test is followed by the appearance of a persistent and typical local reaction, even unaccompanied by a definite temperature reaction, must be regarded as suspects, and unless the application of a second test after 21 days is followed by no reaction whatever, either local or thermal, the animals should not be liberated till they have reacted normally to repeated tests, and only when their physical condition is satisfactory in every respect.

Fourth. Animals giving an abnormal temperature reaction on the occasion of the first test and an atypical local reaction may, if they fail to react at all the second time they are tested, be liberated with comparative safety if a third test, applied after the usual interval, gives results similar to those obtained at the second.

A good deal has been said and written about the recovery of reacting animals, and some authorities have expressed the opinion that the recovery of reacting animals is by no means unusual, and have maintained that the most economical method of dealing with a large number of reacting animals is to work them under supervision, and liberate those which cease to react after repeated tests, applied at intervals of a month, provided their bodily condition continues to be good, and notwithstanding the fact that they have at first given repeated typical reactions. In my opinion such a procedure is fraught with grave danger to the community, as it has repeatedly shown that active lesions of glanders are not infrequently found at post-portem in such animals, and that there is sometimes a tolerance to the action of mallein established in animals inoculated at such short intervals which is altogether misleading. Moreover, it has also been proved that at post-mortem a certain number of reacting but visibly healthy animals are the subjects of tracheal ulceration, and therefore to be capable of disseminating infection during life in spite of their apparent freedom from clinical symptoms of disease. For these reasons I am not disposed to recommend the liberation of undoubted reactors under any circumstances. If such animals can be effectually isolated and worked by themselves, under supervision, well and good, but under no consideration should they be released from quarantine, and if any practitioner is inlined to think this view savours more of caution than our experience warrants, I commend to his consideration the special report on glanders lately written by the Veterinary Director-General of Canada, J. G. Rutherford, and published by the Canadian Agricultural Department, a perusal whereof will, I think suffice to convince him that there is a good deal to be said against the theory that a horse has recovered from glanders infection when he ceases to react to mallein.

Before closing, a few remarks on a more recently discovered aid to the diagnosis of glanders will not be out of place. I refer to the agglutination test, which some German authorities are disposed to regard as very reliable. This method of test is based upon the obervation that in the case of many bacteria, the serum of an animal hyper-immunised against the disease which they produce, or the serum of an animal which is suffering from or has suffered from that disease, possesses the property of causing the specific bacteria whether alive or dead to run together in clumps, a phenomenon to which the term agglutination has been applied. The method is not one of which I have had any practical experience, but I have Professor M'Fadyean's authority for saying that in his opinion the method is not altogether reliable, and not nearly so reliable for glanders as it is for typhoid, particularly if strong solutions of serum are used, as in such a case the only difference between glanders serum and normal serum lies in the time which elapses before the phenomenon is apparent, and in some cases normal sera will agglutinate as rapidly as some glanders sera. The test is only valuable when the reaction is very decided, the time which it takes being largely dependent on the temperature.

The usual method of carrying out the test is by making a uniform emulsion of the organism in $\frac{3}{4}$ per cent. salt solution or in bouillon which must be free from clumps, then making a hanging drop preparation by mixing emulsion and serum in known proportion, placing this under the microscope and observing the time taken for the clumping phenomenon to take place, contrasting it with a similar emulsion of the organism in normal serum. The test can also be carried out in such a way that the clumping phenomenon will be apparent to the naked eye by adding serum to a uniformly turbid preparation of the organism in bouillon. In this case when clumping begins minute particles appear in the serum, which increase in size, while the intervening liquid clears. Later, the particles settle and leave the whole liquid clear. This effect takes place most rapidly when the test tube in which the experiment is made is placed in the incubator. The test is said to be most delicate when dilutions not stronger than one per cent. are used.

Mr. HOLLINGHAM thanked Mr. Gray for his interesting and instructive paper, and for the trouble he had taken in preparing it. He proposed a vote of thanks be accorded to the essayist.

The HON. SEC. seconded. Carried with applause.

The HON. SEC. further proposed that he be authorised to have printed and circulated to membdrs, Mr. Dale's address and Mr. Gray's paper.

Mr. KELLETT seconded. Carried.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

[Abstracts of some of the papers read before the International Congress of Tuberculosis at Washington during the week ending October 3rd, 1908.]

Some Economic Aspects of Tuberculosis.

Dr. Melvin (Chief of the United States Bureau of Animal Industry) considered the economic aspects of tuberculosis in food-producing animals. Statistics of the United States Federal Meat Inspection for the year ending June 30th, 1908, concerned 53,973,337 animals, or more than one-half of all those slaughtered for food in the country. They showed the following percentages of tuberculosis: Adult cattle, 0.961; calves, 0.026; hogs, 2.049; sheep and goats, 0. The proportion of tuberculosis was probably higher in animals slaughtered without inspection. Reports of tuberculin tests made in the fifteen years from 1893 to 1908 with tuberculin prepared by the Bureau of Animal Industry showed that of 400,000 cattle tested, mostly dairy cattle, there were 37,000 reactions, or 9.25 per cent. From these two classes of statistics the author concluded that on an average about 10 per cent. of the milch cows, 1 per cent. of other cattle, and 2 per cent. of the hogs in the United States were affected with tuberculosis, the average percentage for all cattle being estimated at 3.5. The accuracy of the tuberculin test had been confirmed in a remarkable manner by *post-mortem* examination. Out of 23,869 reacting cattle slaughtered, lesions of tuberculosis were found in 23,585, a percentage of 98.81. The loss on animals in which tuberculosis was found in the Federal meat inspection was estimated at $2,382,433 annually, and if the same data were applied to animals slaughtered without Federal inspection the loss would amount to $4,354,855. The stock of animals was also depreciated in value because of tuberculosis. Assuming that living tuberculous milch cows were annually depreciated to the extent of one-tenth of what the loss would be if they were slaughtered, other cattle one third, and hogs one-half, the total annual depreciation amounted to $8,046,219. The annual loss from decrease in milk production was estimated at $1,150,000, and there was also some loss from impairment of breeding qualities. Taking all these items into account, the aggregate annual loss from tuberculosis among farm animals in the United States was estimated at not less than $14.000,000.

Tubercle Bacilli in Cows' Faeces.

Dr. E. C. Schroeder, of the Department of Agriculture, Washington, read a paper on his investigations, showing that about 40 per cent. of cattle apparently healthy, and known to be tuberculous only because they had reacted with tuberculin, intermittently passed tubercle bacilli with the fæces. When a number of such cattle were kept under continued observation, the percentage that expelled tubercle bacilli per rectum was found to double in about eighteen months; and both the frequency with which bacilli occurred and the number found in individual animals also showed an increase. Among twelve cows, bacilli in the fæces were at first found in five, but before the end of two years the number had risen to ten. The proof that the acid-fast bacilli demonstrated by microscopic examination actually were tubercle bacilli was established by (1) producing fatal generalized tuberculosis in guinea-pigs inoculated with the fæces; (2) causing fatal generalized tuberculosis in hogs by feeding them with the fæces; and (3) causing fatal generalized tuberculosis in guinea-pigs by inoculating them with milk soiled with small quantities of such fæces, and with butter made from such soiled milk. Pure cultures of tubercle bacilli isolated from the infected guinea-pigs caused fatal tuberculosis in cattle on subcutaneous inoculation. Dr. Schroeder further observed that with rare exceptions commercial milk could be shown on examination to be contaminated with cows' fæces, and he concluded that, considering the wide prevalence of tuberculosis amongst cattle, the presence of fæcal material in milk was frequently associated with the presence of virulent tubercle bacilli. Cream and butter were also exposed to this danger.

Varieties of the Tubercle Bacillus.

Drs. J. Fibiger and C. O. Yensen, of Copenhagen, reported their investigations on a series of tubercle bacilli isolated from man and from cattle, comprising studies on the virulence of the bacilli, their morphology, and their biology. Virulence tests were performed upon cattle in 29 cases of human tuberculosis, and rabbits were inoculated with twenty-two cultures, eighteen isolated from man and four from cattle. Numerous comparative studies of morphology and cultural characters were made, and the chemical reactions of bacilli from thirty-two cultures in glycerin bouillon were tested. A study was also made of the bacilli yielded by thirty-six cultures on media free from albumen. Summing up their results, the authors find themselves unable to admit a sharp separation between the two ordinary well-known types, though they recognize that the majority of cultures isolated from cattle possess the qualities of the so-called *Typus bovinus*, and that the majority of cultures isolated from human sputum correspond to the *Typus humanus*. There are some cultures, however, which must be considered as transition forms, having some of the characteristics of the bovine and others of the human type.

Professor Arloing declared his belief in the unity of the tubercle bacillus, and supported this doctrine by his study of the variations in the classical types of the bacillus, according to method of growth, morphological characters, and virulence. With regard to human tuberculosis, both his earliest experiments, made in 1884, and his later work showed that there were great differences in the lesions of all forms of tuberculosis. Reviewing the work which had been done to test the views of Koch and Schutz regarding the comparative virulence of human and bovine tuberculosis, Professor Arloing said that he had shown that there was a wide range of virulence in the human bacillus, from a virulence comparable to that of the most active bovine bacilli to an almost complete disappearance of the power to produce tuberculosis. Moreover, he had produced varieties of bovine and human bacilli by special methods of culture, which lowered or increased the virulence or modified the character of the virulence to the point of making it like that of the avian bacillus. The avian bacillus, too, he maintained, could be modified, both by spontaneous and by experimental influences. In conclusion, Prof. Arloing laid emphasis on the medical and hygienic interests which attach to this study of the variations of virulence. From the medical standpoint, the variations explained the differences observed in the gravity and course of tuberculosis; they showed the desirability of possessing prognostic aids as well as experimental methods of diagnosis; and, finally, they threw an interesting light on the significance of the clinical means which might be employed to detect the disease. From the standpoint of hygiene, they emphasised the unity and fusion of the classical types and demonstrated the necessity of taking precautions against the tuberculous virus, whatever its source.

Dr. Charles W. Duval (Montreal) described four peculiar strains of tubercle bacilli isolated directly from the tissues of four human subjects suffering from primary cervical adenitis. In each of the cases the disease first began as a swelling in the neck; this rapidly increased

in size, and in from six to eight weeks the illness terminated fatally. The autopsies showed acute, generalised, miliary tuberculosis, the primary lesions being in the cervical region. In two cases there was an enormous number of acid-fast bacilli in the internal organs, analogous to the condition sometimes found in leprosy and in avian tuberculosis. An investigation of the four cultures showed that one corresponded to the "bovine," another to the "human," type. The remaining two were considered by the author to be "intermediate" or "atypical" forms. It was impossible to classify them with the bovine or human groups. One was perhaps a modified bovine strain, and the other was possibly an avian type attenuated by its sojourn in man. These opinions were expressed after keeping the cultures in question under observation for two and a half years, and carefully comparing them with well-known avian, bovine, and human types.– *B.M.J.*

"OPERATION INFECTION" IN CANCER.

Mr. Charles Ryall, F.R.C.S., Eng., Surgeon to the Cancer Hospital, Brompton, read a paper at the recent meeting of the British Medical Association on "The technique of cancer operations, with reference to the danger of cancer infection." The paper is too long for complete reproduction, but its main points are of great interest to all veterinary surgeons who even occasionally attempt the removal of cancer. It deals with a serious danger in the treatment of cancer, which, though fully recognised by many who see much of the disease, is not yet, in the author's opinion, properly appreciated by the medical profession as a whole, viz., the danger, while operating upon cancer, of infecting previously healthy tissues with cancer cells from the growth which is being removed.

Local recurrence after apparently complete removal of a cancer may arise from the surgeon failing to cut wide of the growth. It may also, however, be due to cancer cells being liberated from the neoplasm, deposited in healthy tissue, and left within the wound to develop fresh centres of disease, which are often multiple.

The author enumerates four clinically distinct forms of this "operation infection."

Suture scar infection he describes as very common. This somewhat resembles the ordinary septic infection of sutures, and may appear as a solitary cancerous nodule in one suture scar, or be much more widespread. It has been seen as an unbroken chain in the suture scars, and in other cases some scars have become infected, while others have escaped. It may appear either in the superficial or the deeper part of the suture track, according to the implantation of the cancer cells. In one case of the author's, the method of implantation seemed traceable. Nodules developed in four suture scars, two on each side of the wound, immediately opposite one another—the nodules on one side appearing on the surface, and those on the other immediately beneath the skin. Apparently, in the author's words "the infected needle or suture, on being inserted, cleaned itself of cancer cells, and thus caused surface infection; and then, being re-handled by the surgeon, became re-infected, and when thrust through the skin-flap on the opposite side, it again cleaned itself, and set up infection immediately beneath the skin."

Nodular infection of the wound is also fairly common, and, like suture-scar infection, may be either single or multiple. It differs from suture-scar infection by its situation, which may be anywhere within the field of operation. These cases were generally attributed to incomplete removal of the growth, but undoubtedly they often arise from re-infection of the wound by the accidental deposition of cancer cells. It is not uncommon for single or multiple nodules to spring up after the removal of a solitary growth of limited extent. The author has seen fourteen such nodules arise after removing a solitary nodule from the chest wall.

Diffuse or brawny infection of the wound is the most rapid and acute form of operation infection, and is due to "widespread dissemination of cancer cells at the time of operation, with consequent widespread infection." It appears in the form of brawny induration and infiltration of the tissues within and around the field of operation. It nearly always appears early after the operation, and extends with great rapidity. The author has seen this condition most frequently after operating upon malignant glands in the neck, but it may occur elsewhere when many cancer cells are set free during operation. In one case he cites, cancer cells were known to have been liberated during the amputation of a carcinomatous breast, the tumour itself being small and of short duration. The result was that within eight weeks "the field of operation and the surrounding part of the chest became one diffuse mass of brawny cancer."

Distant implantation is "that form of operation infection where cancer cells are carried to and implanted in a part cut into at the time of operation, but more or less distant from the original growth." Infection of laparotomy wounds may be instanced. The author has seen operations upon cancer of the large intestine, and upon uterine cancer, followed by the appearance of cancerous infection in the cicatrices of the abdominal incisions.

Apart from all inferences drawn from clinical observation, it has been clearly proved by the miscroscope that instruments, etc., and also the hands of the surgeon and his assistants, may act as carriers of cancer cells, and that these cells are probably always present in the blood flowing from a cancer that has been incised. The danger of operation infection, therefore, is a very serious one, especially when we remember its method of development. Ordinary septic infection declares itself quickly, while the patient is still under observation. Cancer infection, on the other hand, is generally not evident till after the wound has healed, is usually insiduous in its course, and can, indeed, only be recognised by "the mere bulk of cancer cell growth." Moreover, a second operation is seldom satisfactory, when the first one has been followed by infection.

A special technique is therefore necessary in cancer surgery, its object being to prevent the liberation of cancer cells from the cancerous growths, in which they are more or less pent up. It is important to remember the various methods by which such liberation may occur. Exploratory incisions into cancerous tumours, cutting into infected tissues during operation, rupture of infected lymphatic vessels or glands, tearing or lacerating cancerous growths, or removing them piece-meal, may all cause infection of healthy tissue. Roughness of manipulation, and curettage, are both attended with danger. Hæmorrhage from cancerous tissues is especially dangerous.

In operating for cancer, the surgeon should always endeavour to remove the whole of the diseased tissue *en masse*, or, if this cannot be done to appproach it as nearly as possible. It is routine practice to remove the lymphatic glands nearest to the growth, on the presumption that these are infected. The lymphatic channels leading from the growth to these glands should also be considered as infected, and, if possible, removed *en masse* with the cancerous growth and the lymphatic glands.

The old plan of dissecting out lymphatic glands one by one is dangerous, as small glands may be overlooked and allowed to remain, and lymphatic vessels—possibly infected—are unavoidably severed. Exploratory incisions into cancerous growths are obviously dangerous also.

If, however, cancerous tissue should happen to be cut into or torn across, the surgeon should endeavour to prevent the dissemination of cancer cells. In these cases the author advises applying the actual cautery to the diseased tissue, drying, swabbing the possibly infected area with a one per cent. solution of formalin, and finally placing a pad soaked in the same solution over the diseased tissue, and maintaining it there. Finally, the instruments, etc., in use should be discarded, and fresh ones supplied; and the hands of the surgeon should be re-prepared before the operation is proceeded with.—*Brit. Med. Jrnl.*

DISEASES OF THE DOMESTICATED ANIMALS COMMUNICABLE TO MAN.

By LESLIE ROBERTS, M.D., Lecturer on Dermatology, University of Liverpool; Dermatologist, Liverpool Royal Infirmary. [*Abstract.*]

Dr. LESLIE ROBERTS read a paper giving an account of the skin diseases of domesticated animals, describing their morphology, the methods of their transmission to human beings, its relative frequency, and the circumstances favouring it; and discussing the classification of the causative organisms and their macroscopic, microbiologic, or other characteristics.

The diseases were due to four classes of organisms: (1) Bacteria, (2) mould-fungi, (3) parasites belonging to the insect family, (4) parasites belonging to the spider family.

In connection with skin diseases of bacterial origin nearly the whole work of investigation still remained to be done. To this class belonged the so-called horsepox, a disease introduced into Europe from Canada in 1877, and readily transmissible from horses to man and other animals. It was probably a form of impetigo.

The mould-fungi were most conveniently termed "Keratomycetes," since this name included all the fungi which, in varying degree, had the power of vegetating in the horny epidermis, breaking up its keraton and digesting it by a proteolytic ferment. The size of this family, to which belonged *Tinea tonsurans*—a term now dead—was yearly increasing; morphologically its members presented a series of gradations in organisation from the Microspora at the one extreme to Favus at the other.

The Microspora, widely distributed geographically, had been observed in man and many of the higher vertebrates. One variety, the *Microsporon audouini*, was the cause of about 95 per cent. of all cases of ringworm among school children, but rarely, if ever, occurred in the lower animals. On the other hand, the microsporon of the dog and the cat would pass indiscriminately from the one to the other and to man, and *vice versa*. The microspora invested the hair, which they attacked with an ash-grey vegetation visible to the naked eye, and seen when magnified to be formed of a mosaic of small cells. Each of these cells was capable of propagating the fungus, and could retain its vitality for as long as eighteen months.

Another variety of keratomycetes, the Trichophyta, probably had their origin in vegetable matter, living or dead, the domesticated animals being their secondary host and men only an occasional one. Tricophyton of the scalp the author had seen acquired from a parrot. This variety was transmissible from child to child, but was less contagious than the *Microsporon capitis*, and usually occurred either in single cases or small groups. Tricophyton of the beard was probably always contracted from the horse or cow; it tended to set up suppuration and the formation of dense cellular nodes. In the smooth skin tricophyton often caused deep-seated follicular suppuration. The keratomycetes were not all equally widely distributed geographically; ringworm, common in some districts, was rare in others, thus calling to mind the distribution of anthrax. Again, like the latter disease, it might be acquired by the skinning of a dead animal. Besides direct transmission, as from animals to farm servants and cavalry soldiers, it might be acquired indirectly, a father attending on a sick animal conveying it to his child. Many epidemics of keratomycetic disease among human beings, yet of animal origin, were on record.

There were differences in the ringworms of cattle, horses, sheep, goats, dogs, cats, deer, and birds (all of which were separately described and their transmissibility to man illustrated); but, as a rule, the symptoms in animals were simpler and more uniform than in man, and consisted for the most part of baldness, broken hairs, and desquamation. In man they varied from these to deep-seated kerion, resembling actinomycosis. The author had long since shown that microspora and tricophyta were capable of vegetating in hair removed from the body; for this and for other reasons the keratomycetes should probably be regarded not a true parasites, but as saprophytes, with a facultative parasitic power, which was not equally developed in all members of the family.

Conveniently included in the family were achorion and the allied faviform fungi. In animals achorion produced symptoms similar to those in man; in cats it was generally met with on the paws and ears, a fact pointing to infection through the mouse; in fowls it was known as white comb; in horses it was uncommon. Transmission from animals to man appeared to be rare.

Of the true parasites which set up skin diseases the only ones requiring consideration were the sarcoptes, for while fleas, ticks, and lice did not produce what was strictly speaking a disease, the other skin parasites of domestic animals, namely, dermatocoptes and dermatophagus were non-burrowing acari and soon perished on the human skin. The sarcoptes of animals were transmissible from one to another as well as to man while the human sarcoptes was transmissible to horses. The disease set up by sarcoptes—namely, scabies—was a much more serious disease in animals than in man. Instances of scabies acquired from animals were quoted, and it was shown that the sarcoptes of animals and the human acarus were practically distinguishable only by minute differences in size. It was from the horse, more frequently than from any other animal except their fellow men, that human beings acquired scabies. Scabies in the horse was usually limited to the head, neck, and shoulders, but the itching was so severe that the animal would gnaw and scratch itself constantly at night. In severe and neglected cases the prognosis was very unfavourable, for general nutrition became affected by the constant irritation, and the animal might die from exhaustion.—*B. M. J.*

GLASGOW VETERINARY COLLEGE.

The opening lecture of the session was delivered in the Glasgow Veterinary College on Wednesday, 14th inst by Mr. Hugh Begg, V.S., East Kilbride. The Rev. David Watson, St. Oswalds, occupied the chair.

Principal MCCALL intimated that he had received letters of apology from various gentlemen, including the Lord Provost Sir William Bilsland, Professors Dewar and Bradley, Royal (Dick) Veterinary College, Edinburgh; Mr. J. Campbell Murray and others.

The CHAIRMAN, in introducing the lecturer, said that he (the Chairman) had attended so many opening lectures that he looked upon himself as associated with the students.

Mr. BEGG, who, by the way, is an old student of this College, said he felt honoured when asked by Principal M'Call to deliver the opening address that day. He was perfectly justified in saying that since he became a student of the College all the introductory addresses had been delivered by eminent scientists. He was not much of a scientist, and therefore would not give a scientific lecture. His lecture would be one which would be of great interest to stock-owners and veterinary students in Glasgow and the West of Scotland. It was—"The Present and Prospective Position of the Glasgow Veterinary College." In order to fully appreciate the present and prospective position of this College, it was necessary to recapitulate the main features of its past history. The College was founded by its present Principal, Professor James M'Call, forty-five years ago, and in 1863 it was affiliated by Royal sign manual to the Royal College of Veterinary Surgeons. From the commencement to 1894 the number of students in attendance gradually increased, and in that year there were 143. Up till 1895 the College was made to pay its way by the skill and industry of its Principal, but since that year it had been carried on at a yearly financial loss. No one could deny that Professor M'Call had put up a brave and manly struggle. It was impossible that such a state of affairs should continue, and it was evident that something would require to be done if the future usefulness of the College was to be assured. Principal M'Call's struggle was rendered all the more unequal when, in 1896, the Irish Veterinary College was founded with a Government endowment. Up till then the number of Irish students attending the Glasgow College was never less than one-third of the total number on the roll, and it would be readily understood that the institution of the Dublin College materially curtailed the number of students at Glasgow. What could be said of a Government that treated one portion of the domain in a lavish manner like this, and yet never proffered one farthing of assistance to such an institution as this? The facility with which the Government was induced to grant this endowment, and to augument it handsomely as often as it was asked, furnished a blazing testimonial to the persuasive ability and the irrepressible importunity of Irish legislators. They on this side of the channel had been too meek, and if there was only one way of moving the State to administer its funds equally to kindred teaching schools, surely it was high time for them to lay aside their independence and take a leaf from the book of their brothers of the distressful country. If a sum like what had been given to Ireland had been divided between the Scotch Colleges they would have been placed in a position of independence for many years. While this was being done for Ireland, the London Veterinary College received a grant of £800, and at the same time the Royal (Dick) College, Edinburgh, began to ascend. As the Glasgow Veterinary College was a private institution, it could not participate in the Government grants, so that up till now Scotland was isolated, for the State had not spent a copper on veterinary education in Scotland. With the object of qualifying his school for these grants, Principal M'Call approached the Secretary for Scotland, and an attempt was made to amalgamate it with the West of Scotland Agricultural College. In the autumn of 1906 Principal M'Call let it become known that he was no longer prepared to carry it on as a private school, and unless the College was taken over by a body of governors, with a sufficient endowment to place it on a sound financial basis, veterinary teaching in Glasgow would cease to be carried on. This knowledge aroused the public, and the feeling that the discontinuance of the Veterinary College would be a distinct loss to many interests in the West of Scotland was widely expressed in the columns of the public press and agricultural journals. Eventually a dozen or more influential gentlemen called a public meeting, which was held in the Merchants' Hall, Glasgow. At this meeting resolutions were passed in favour of the maintenance of the Glasgow Veterinary College under governors, and of petitioning the Government for an annual grant. A provisional committee was also appointed to give effect to these resolutions. This committee had for a full year been directing their efforts to obtained funds from Local Authorities and others, and by June, 1908, had succeeded in raising a capital fund of £3,700, and revenue funds amount to £227. Mr. Sinclair (Secretary for Scotland) congratulated the committee, and promised to do his best to obtain a sum from the Treasury. In the belief that many graduates of this College would welcome the opportunity of paying a compliment to Principal M'Call by subscribing to the capital fund, he (Mr. Begg) asked for, and obtained, permission to issue to former students a private letter. He was pleased to say that already the response had been very hearty. He could not conceive of anything that would be more disastrous to veterinary surgeons than the loss of the veterinary school. At present scientific education in all its branches was not self-supporting, for the equipment necessary for efficient tuition called for considerable expenditure, and if the fruit of this higher education was to be applied for the good of the community, it was only just that the Government and local bodies should afford pecuniary assistance. Some pessimists had boldly asserted that the veterinary profession had passed its zenith, and was now decadent, and based their opinions on the displacement of the horse by the motor car. The scope of professional work and study was broadening, and important and newly created positions were constantly offered at home and abroad. Principal M'Call told him that he had received more inquiries for young, capable veterinary surgeons than ever before; in fact, the supply was short of the demand, and he was of opinion that the expansion of the veterinary surgeon's sphere of labour was in its infancy. He was not certain, but he expected that when the funds were fully in hand the committee would have to arrange for the appointment of a representative body of governors, whose duty it would be to lay the claims of the College before Mr. Sinclair. Mr. Begg then gave some advice to the students.

The CHAIRMAN said that the address by Mr. Begg was very inspiring, and that no more complete statement could have been made. He had always wondered why this College was not in closer touch with the University here. It was necessary to have buildings worthy of the College so that veterinary science would stand alongside other profession.

Votes of thanks were accorded to Mr. Begg and the Rev. Mr. Watson.

VETERINARY SURGEONS AS JURORS.

[Reprinted (by request) from *The Veterinary Record* of July 4th, 1903.]

The Court for Crown Cases Reserved sat on Saturday in Nisi Prius Court No. 1 for the purpose of hearing the arguments on a case reserved by Mr. Justice Andrews from the Commission Court of the County of the City of Dublin, which raised the question whether veterinary surgeons are liable to be called on to act as jurors. The judges present were the Lord Chief Baron, Mr. Justice Andrews, Mr. Justice Johnson, Mr. Justice Madden, Mr. Justice Barton, Mr. Justice Boyd, and Mr. Justice Wright.

The petitioner, Mr. Charles Allen, veterinary surgeon, of 23 Rutland Square, West, Dublin, appealed against an order made against him for payment of a fine of £2 for his non-attendance as a juror at the Commission Court on 6th February last. The appeal came on for

hearing before Mr. Justice Andrews at the Commission on the 1st of April, when petitioner submitted that his non-attendance was not a wilful contempt of court, but was occasioned by the fact that he was a person absolutely freed and exempted from serving on any jury, inquest or inquiry in any court, or on any occasion whatsoever, he being a licensed medical practitioner, and he, therefore, prayed that the fine might be remitted. The petition further set out that the petitioner had been practising for over 30 years as a veterinary surgeon in Dublin, and was still so practising; that he had been admitted as a member of the Royal College of Veterinary Surgeons on the 19th of April, 1870, and he produced his diploma of membership, certifying that he was fully qualified to practice the art and science of veterinary surgery and medicine. He also stated that he was a Fellow of the Royal College of Veterinary Surgeons, having obtained the Fellowship by examination; that he was President of the Veterinary Association of Ireland, and at one time a member of the Council of the Royal College of Veterinary Surgeons.

Counsel had argued before Mr. Justice Andrews that the petitioner should be exempted from serving on a jury, inasmuch as he came within the description of persons exempted in section 20 of the Juries Procedure (Ireland) Act, 39 and 40 Victoria, chapter 78, and in the schedule annexed thereto, as being a "licensed medical practitioner"; and, further, inasmuch as he came within the description in the said schedule of persons theretofore exempted by virtue of any prescription, charter, grant, writ, or local Act of Parliament. The Royal Charter of the Royal College of Veterinary Surgeons, dated March, 1844, declared and granted that the veterinary art as practised by the members of the Royal College of Veterinary Surgeons should be thenceforth deemed and taken to be recognised as a profession, and that the members should be individually distinguished by the name or title of Veterinary Surgeons. The Royal Charter proceeded to declare that the veterinary art was thenceforth recognised by law as a profession. The questions for the Court were:—(1) Is the petitioner entitled to the exemption he claims from being returned and from serving on any jury, inquest, or inquiry in any Court or on any occasion whatsoever; (2) is the petitioner entitled to a remission of the fine referred to in his aforesaid petition.

Mr. Dudley White (instructed by Messrs. Peebles and Knox) appeared for the petitioner, and argued that veterinary surgeons were included in the term "licensed medical practitioners." He cited the various sections of the Medical Acts bearing upon the question, and also the decided cases.

Mr. Justice Madden said he was under the impression that the foundation of all the exemptions was the benefit of mankind, not the dignity of the persons exempted.

Mr. Justice Johnson said that it might be argued that a baker should be exempted.

Mr. White pointed out that every person exempted in the schedule was a person whose labour could not be done by deputy. A baker could have his work performed by deputy.

Mr. Justice Johnson said there might be cases in country villages where the baker could not have his work done by deputy.

Mr. White said that pharmaceutical chemists were now exempted. Their Lordships would remember that in Bardell *v.* Pickwick the chemist asked to be exempted on the ground that he had not an assistant. (Laughter). Mr. Justice Starling said he ought to have an assistant, and the chemist replied that he could not afford to pay for one. The chemist was compelled to serve, but before he was sworn he said he was afraid there would be a murder before the case was over, as he had only an errand boy in his shop, who was under the impression that oxalic acid was Epsom Salts, and leaves of senna laudanum. (Laughter). Whether it was owing to that, counsel was unable to say, but the fact was that chemists, being persons whose personal skill and labour were required, were now exempted.

Mr. Justice Madden: It is not improbable that it had an effect.

The Lord Chief Baron: You don't think that that decision of Mr. Justice Starling is one that we ought to follow? (Laughter).

Mr. White: No, my lord.

Mr. Justice Johnson: All this is beside the question.

Mr. White said he was answering a point his lordship put as to certain people being exempted.

Mr. Cecil Atkinson (instructed by Sir P. Coll, C.B., Chief Crown Solicitor), submitted that the Court must look at the Jury Act itself, and give the exemptions therein specified the strict and lateral construction that the Act intended, and he contended that "medical practitioner" could only mean a person engaged in the practice of medicine in the ordinary acceptation of the term, and could not be extended so as to include a totally separate class of persons, even though in the exercise of their skill they might be concerned in the mixing of drugs. Their grievance must remain, as in the case of the dentists, until some future Act of Parliament relieved them from this duty.

The Judges having consulted,

The Lord Chief Baron announced that the majority of the judges were of opinion that the petitioner was entitled to the exemption claimed, and that both questions should be answered in the affirmative.—*The Dublin Daily Express*, Monday, June 22, 1903.

Law for Dentists and Law for Doctors.

Sir,—In the King's Bench Division, before the Lord Chief Justice, Mr. Justice Bigham, and Mr. Justice Walton, on October 14th, an appeal was heard of an unregistered practitioner from a conviction for having made announcements implying that he was specially qualified to practise dentistry. It was contended that as he claimed no specific qualification there was no breach of the Dentists Act; but their Lordships took a different view, and dismissed the appeal. This judgment places the dental profession so far on an equality with veterinary surgeons, and will help the public to distinguish between legally qualified and unqualified practitioners, one of the chief aims of the Act. Veterinary surgeons deal only with brutes, whilst dental surgeons treat cases only in which questions of life and death never appear. On the other hand, the law at present gives perfect safety to fraudulent rascaldom throughout the practice of general medicine and surgery. There exists an army of impostors who by the adoption of bogus titles, or under the cloak of sham medical establishments, or—as illustrated in the JOURNAL from week to week—under the cover of the trade in worthless nostrums and apparatus, are able easily to palm themselves off upon the public as fully qualified medical men; it is an army engaged in amassing wealth by methods involving suffering, misery, and death. Is it credible that if these facts were publicly and authoritatively demonstrated, as they easily could be, the Legislature would refuse any longer to give attention to this great scandal?—I am, etc.,

Earlswood Common, HENRY SEWILL.

Oct. 17th.—*B.M.J.*

Prosecution by the R.C.V.S.

"CANINE SPECIALIST."

At Marlborough Police Court, Mrs. E. White Pearce, of Prince's Street, Regent Street, was summoned before Mr. Denman, for using the description of "Canine Specialist," contrary to Section 17 of the Veterinary

Surgeons Act, 1881. Mr. H. Dickens, instructed by Mr. George Thatcher, conducted the prosecution on behalf of the Royal College of Veterinary Surgeons; and Mr. Arthur Newton appeared for the defence. The defendant carries on business in Prince's Street as a dealer in dogs, and in her shop appeared the words "Canine Specialist." As she was not a person qualified within the meaning of the Veterinary Surgeons Act, it was contended by the prosecution that she had no right to use those words.

Mr. Dickens, after opening the case, said he would call evidence showing what defendant meant by the words "Canine Specialist," and what she had done in respect of treatment of animals. The Magistrate at once said that he should not admit the evidence, and that all he had to decide was whether defendant had taken such a description as would bring her within the words of the Act.

Mr. Newton said that his client had committed no offence. She never represented that she was a veterinary surgeon. She bought and sold dogs and shampooed them, but she never held out that she was anything more than an ordinary dog fancier. Moreover, by its Charter no woman could be a member of the Royal College of Veterinary Surgeons.

Mr. Dickens urged that the words "Canine Specialist" indicated that the defendant was qualified to act as a veterinary surgeon and to treat disease in dogs. Such words were, he contended, likely to deceive the public.

Mr. Denman said he thought there was a great difference between this case and the case of Collinson which had been decided in the High Court, because the defendant in the case of Collinson was a man who put up the statement "Canine specialist: dogs and cats treated for all diseases." In the case before him the words were not the same, and he had looked in vain for any statement implying that there was any treatment for disease. All the defendant did was to represent that she was a toy dog specialist, and that she stocked them, attended to their toilets, and shampooed them. There was no statement that she had any knowledge or qualification to treat them for disease. He therefore held the defendant did not come within the Section, and the summons was dismissed.

Mr. Newton asked for costs, and the Magistrate said he would allow two guineas.

Mr. Dickens: Will you state a case, sir, if the College wish to take it to a higher court?

Mr. Denman: Yes.

Meat Case at Tiverton.

At Tiverton Quarter Sessions, on Thursday, Oct. 15, the charge against James Goodland, butcher, of Bampton Street, Tiverton, of knowingly exposing for sale certain portions of a bullock unfit for human consumption, was proceeded with.

Mr. F. E. Weatherley (instructed by Mr. W. T. Booker, Wellington), appeared for the prosecution; Mr. Holman Gregory (instructed by Mr. W. H. Martin, Tiverton) for the defence.

Evidence previously given to the effect that a bullock, which was suffering from diarrhœa and incipient dysentery, was slaughtered on advice from the veterinary surgeon, and part sold by Goodland.

Mrs. Caroline Shopland, widow, of Chevithorne, said her husband, son, and daughter, a Miss Truscott, a lad named Selway, and herself, ate some of the meat on August 3rd. Here husband was taken ill shortly afterwards, and required medical attention. He died eight days later. She and her sons were the only ones to escape, the others being taken ill.

Mrs. Govier, of Crazelownan, said a number of her family were taken ill, and had to be medically attended.

Obury Luxton, a cabdriver, who drove Mr. Mrs. and Miss Govier home from Cullompton, when they were taken home ill on Bank Holiday, said that the result of a meat supper supplied him at Crazelownan, was that he was out of work for a fortnight.

Mrs. Harriet Norman, of Tiverton, deposed to buying 10lbs. of beef for a Mrs. Huxtable. Three days after the beef was cooked her mother, three sisters, several children, and six friends from Bristol had some, and were ill afterwards. One of the daughters who had none, was not ill.

Elsie Norman, daughter of the last witness, said she and a friend took a trip to Torquay on August 1st, takwith them a quantity of meat sandwiches. She ate none, but her companion, Mr. Sweet, did, and was ill afterwards.

Other witnesses gave evidence to the effect that the meat contained a quantity of black blood and little specks of matter; and that others were taken ill after eating some.

Mr. J. R. Pollock, M.R.C.S., L.R.C.P., of Tiverton, said that on the 8th of August he sent some medicine to Mr. Shopland and visited him on the following day. He was suffering from sickness and diarrhœa and heart disease. Assuming that the slaughterman's evidence was true, he saw a connection between the condition of the bullock and the illness of Mr. Shopland. Assuming deceased ate part of the bullock, he considered that was the cause of the diarrhœa, which was consistent with Shopland having eaten meat that was both unsound and gone off. In witness's opinion the meat was unfit for human food, although he would not say it was unfit on the day after the animal was slaughtered. Mr. and Mrs. Norman's, Mrs. Gillard's, and Mrs. Mountstephen's illnesses were consistent with them having eaten some of the meat.

Cross-examined: The patients were suffering from ptomanic poisoning. If the ptomanic bacilli were in the blood when the animal was alive, he would expect a vast majority of the persons eating it to be ill. Although the bullock weighed 640lb, the meat which caused the illness only weighed 54lb.

Mr. Gregory: Was there an epidemic of diarrhœa in the borough durlng the summer?—I had two cases at that time.

Have you heard it suggested that the water was the cause of the epidemic of diarrhœa?—Yes.

Dr. John Raglan Thomas, of Exeter, gave the opinion that the bullock was unfit for food. He thought all emergency slaughterers (as he took Fowler to be) were obviously open to suspicion. He considered that no meat the result of such slaughter should be sold for human food without being carefully examined by an expert. But in this case the symptoms described by various witnesses were of such a virulent character that there was a strong presumption of a condition rendering the meat unfit for food, which he thought the commonsense of those concerned would have suggested at least the precaution of protecting themselves by having the meat examined by the officers of health.

The Defence.

Defendant, giving evidence, said he had been in the butchering trade all his life, and had been buying bullocks for Mr. Were for the past 13 years. On July 28th he met Peter Were at Tiverton Market, when the latter told him he had a bullock which he expected would have to be killed. Defendant replied "I will not kill for anyone without a veterinary's instruction." Were then said "Mr. Down shall see it." Later defendant met Mr. Down, the veterinary, and was asked if he would go out to Bradford to kill a bullock. It was arranged for Fowler to kill the animal. He saw the bullock, which appeared neither distressed nor ill. It was not in a state of collapse. When the animal was

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended Oct. 24		23	28			15	34			8	32	213
Corresponding week in	1907 ..	19	29			12	27			7	32	210
	1906 ..	14	22			24	64			4	23	165
	1905 ..	14	17			28	41			18	15	61
Total for 43 weeks, 1908		898	1187	3	112	686	2107			660	1720	10545
Corresponding period in	1907 ..	897	1207			723	1647			441	2078	9889
	1906 ..	753	1079			917	1741			331	959	5493
	1905 ..	810	1114			1030	1768			713	680	3044
Board of Agriculture and Fisheries, Oct. 27, 1908.												
IRELAND. Week ended Oct. 17		..	..	..	..	..	..	..	..	2	1	4
Corresponding Week in	1907 ..	..	..	..	..	..	..	..	..	2	5	78
	1906 ..	..	..	..	..	..	..	..	..	3	1	5
	1905 ..	..	..	..	..	2	7	..	..	2	..	..
Total for 42 weeks, 1908 . ..		7	10	..	..	..	..	..	..	288	148	3469
Corresponding period in	1907 ..	3	5	..	..	5	9	..	..	205	134	2277
	1906 ..	3	7	..	..	6	14	..	..	183	84	948
	1905 ..	3	5	..	..	21	71	..	..	245	135	1402

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Oct. 21, 1908

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

slaughtered he did not notice anything unusual in the colour or quantity of blood. The entrails were not black, neither was there anything remarkable with the milt. When he cut the bullock up he noticed nothing wrong with it.

Cross-examined: He had killed other bullocks without the veterinary surgeon's order, and sold the same for food, and would do so again. He had often killed bullocks when they were lying down quietly and without roping them. He admitted telling a butcher named Carpenter that if he was summoned he would have Duke down. He had bought many bullocks at £7 a-piece, and those he sent to Cornwall.

Mr. Weatherly, in addressing the jury, contended that the evidence of Fowler was more to be relied upon than that of Goodland, because in a statement to the police he implicated himself.

Mr. Gregory remarked that nothing had been said that implicated Fowler.

Mr. Weatherly urged that Fowler could be proceeded against under the common law as an accessory. Learned counsel had maintained that the defendants must have known that the carcase was unfit for food; but in spite of that, he alleged, there was an arrangement between Were and Goodland to make the best of a bad job.

Mr. Gregory discounted the evidence of Fowler, and contended that if the meat was bad the disease did not set in until after it left Goodland, who was an innocent party in the matter.

The Recorder, in summing up, said the points for the jury were:—1. Did the defendant know when he sold the meat that it was unfit for human food? 2. Did Goodland sell the meat for human food?

The jury, after two hours' deliberation, failed to find a verdict. The Foreman said there was no hope of their agreeing, as they were equally divided.

The case was accordingly referred back to the next Quarter Sessions, and defendant was allowed the same bail as before.—*Western Morning News.*

THE GROUSE DISEASE.

WORK OF THE COMMITTEE OF INQUIRY.

It is now four years since a number of owners of grouse moors met together in order to find out, if possible, the origin of the grouse disease. The result of this meeting was the formation, in the following year, of a Committee, composed of Lord Lovat (Chairman), the Marquis of Tullibardine, Mackintosh of Mackintosh, Mr. R. Rimington-Wilson, Mr. J. Graham, Mr. D. W. Drummond, and Mr. R. C. Monro-Fergusson. In addition, the Committee, in conjunction with the Board of Agriculture, obtained the services of a staff composed of several eminent bacteriologists, naturalists, and entomologists, including Mr. A. E. Shipley, F.R.S., Lecturer on Advanced Morphology of the Invertebrates to the University of Cambridge; Mr. C. G. Seligman, M.B., pathologist; Mr. F. C. Fryer, B.A., and Mr. A. S. Leslie, W.S. Edinburgh, as Secretary.

Three interim reports have now been issued by the Committee, and some very interesting facts connected with the life-history of the grouse have been published. It is as well to state at once that since the Committee have been in existence no single instance of acute pneumonic form of grouse disease such as described by Prof. Klein in his book on the grouse disease, has come before them, although since 1906 800 grouse of both sexes of all ages, in every month of the year, both sick and health, have been examined. Notwithstanding this, a mass of information has been collected, and facts have been established about the grouse and its habits that could not hitherto have been regarded as approaching

finality. These facts have been arrived at by enlisting the help of nearly 300 correspondents in different parts of Scotland, the North of England, Wales, and Ireland; by microscopic examination of the lungs, intestines, and other portions of the bird, and by breeding a number of grouse in captivity for the purpose of watching their matrimonial arrangements, experimenting on the healthy bird, and for testing the various kinds of food they will eat and thrive on.

As regards food it has been found without doubt that the grouse feeds all day long from daybreak to sundown, and that in health the gizzard invariably contains food undergoing a grinding process; that in addition to heather, the grouse eats over twenty other kinds of plants, and it has been ascertained that grouse will live for years that have never set eyes on a sprig of heather. At the same time heather is the chief food for the grouse on most moors, and on the amount of this food during the winter months the well-being of the birds chiefly depends, as it has been proved that they require far more food in the winter than they do in the summer, hence the extreme importance of the proper burning of the moor, so that there shall always be plenty of young heather.

It has been found that internal parasites infest even the healthiest grouse in large numbers; in fact, it is impossible to find a grouse without hundreds of the small thread worm, and in addition most grouse have at least two species of tapeworm; while the grouse are in a strong and healthy state, due to food being plentiful and weather conditions favourable, these worms have no apparent effect on the bird, but should they from any cause become emaciated and weak, these worms take such hold upon it that it is almost bound to succumb, and, in the intestines of such a bird, quite sufficient cause has been discovered for its death. An interesting fact connected with these worms is that they cannot breed in the body of the grouse, but pass their younger or larval stages in the body of some lower animal; this lower animal, presumably a mollusc or an insect, must be eaten by the grouse and the larval tapeworm set free before it can grow into an adult tapeworm. The Grouse Committee are doing their best to discover this second "host," and if they are successful they will probably have gone far in solving the problem of the grouse disease.—*East Anglian Times.*

Wild Animals and Snakes in India.

A return issued by the Government of India shows that the total mortality amongst human beings reported to be due to wild animals in 1907 amounted to 1,966, as compared with 2,086 in 1906. The total is the lowest on record since the practice of collecting these statistics was initiated. The most noticeable variations from the figures of last year occur in Bengal, the United Provinces, and the Central Provinces, while in Madras there was a comparatively large increase—from 167 to 201—in the number of persons killed by tigers. The total mortality amongst human beings caused by snake-bite fell from 22,811 in 1906 to 21,419 in 1907. So low a figure has not been reached since 1897. The Lauder-Brunton treatment of snake-bite by incision and application of permanganate of potash and the distribution of lancets continues, but as usual the value of the results is discounted by the absence of identification of the snake that inflicted the bite. In Burmah nearly all the deaths occurred in paddy tracts where Russell's viper is particularly prevalent. Steps are being taken in this province to ensure a wide distribution of Brunton lancets. It is too early yet to pronounce with any certainty as to the result of the experiment, but a number of favourable reports have been received. It is reported that in the Pegu district six men and one buffalo bitten by Russell's vipers were operated on by headmen to whom lancets had been issued and that all but one man, who was unconscious before being brought to the *thugyi*, recovered. Eight cases are reported from the United Provinces of the successful use of Dr. Calmette's anti-venene. In two of these cases the permanganate of potash treatment was also employed. The number of wild animals destroyed was 15,711, as compared with 15,855 in 1906. The total number of snakes killed was 61,734, as compared with 61,830 in 1906, and the amount of the rewards paid for their destruction was Rs.2,670, as against Rs.2,639 in 1906. It would therefore appear that, in the struggle between man and his hereditary enemy, India still kills only three snakes for every man that is killed by them.—*The Times.*

CORRESPONDENCE.

THE VETERINARY SURGEONS AMENDMENT BILL

Sir,

In common, I suppose, with other memberse of the profession, I have received a printed document, headed "The Proposed Veterinary Surgeons Act (1881) Amendment Bill. Why you should vote against the Bill," and signed by four gentlemen, one of whom is Mr. J. A. W. Dollar. The document is rather a long one, and it is not my intention to criticise the whole of it in your columns. I desire only that you will permit me to refer to two of its paragraphs, the first of which is as follows:—

"If, however, Mr. Garnett's last-mentioned proposal—to assist teaching schools—is seriously put forward, it will account for all the haste, and all the demands revealed by this confiscatory Bill. More than one teaching school is urgently in need of money. At the present moment one school receives a large grant from Government, but nevertheless has had to appeal to members of the R.C.V.S. for funds to put its buildings in repair, and been forced seriously to reduce the salaries of its teaching staff. This school, for many years, maintained an active competition with its own graduates by publicly canvassing for clients, offering professional services at extremely low fees, shoeing horses at practically cost price, and conducting a gratuitous practice where persons who could well afford to pay obtained advice, etc., for nothing."

On reading this malevolent attack on the Royal Veterinary College I could not help thinking that this is a world in which Mr. Dollar finds it hard to maintain a consistent line of conduct. No one reading the paragraph would consider it possible that Mr. Dollar was ever willing to engage in the practices which he has here held up to reprobation. I will, however, remind him that such is the fact. Indeed, he was not only prepared to join the staff of the Royal Veterinary College, and thus to assume a share of the responsibility for most of the acts that he condemns, but he desired to make it a condition of his becoming a professor of the College that he should be allowed a freedom to compete with private practitioners in London, which a bye-law of the institution has for many years denied to all the members of the staff. I allude to the regulation which prohibits the professors of the College from engaging in private practice, and from attending or prescribing for patients elsewhere than on the College premises. I may add that this is the only instance within my knowledge in which a member of the profession has attempted to induce the Governors of the Royal Veterinary College to set aside a regulation made in what they conceived to be the interests of private practitioners in London.

The second paragraph to which I desire to call attention reads as follows:—

"Yet within six months the Chairman of the Parliamentary Committee has become party to an agreement by which just 10 per cent. is to be exempted from payment although 'sharing the same privileges'; and to crown the irony of the situation, his colleague, the President of the R.C.V.S., and six other members of the Council, will be among those exempted, so that if they make any contribu-

tion at all to the scheme Mr. Garnett is promoting it must be voluntary, which Mr. Garnett says 'is absurd.'"

This paragraph is untrue in every particular, and I regret to have to think that Mr. Dollar knew it to be false at the time when he allowed it to be distributed to the profession. But even if he did not know the statements contained in this paragraph to be false, he at any rate had good reason for doubting their truth, and nothing can acquit him of having recklessly permitted the dissemination of a series of absolute falsehoods in his endeavour to whip up opposition to the Bill.—I am, etc.,

Royal Veterinary College, J. M'Fadyean.
27th October.

Sir,

All your pungent criticisms, all the assaults of your heavy artillery have not dislodged, and cannot dislodge, Mr. Dollar from his first entranchment, where he remains basic and rock-like. No amount of cheap sneering, no quantity of flimsy sophistry can impugn the validity in the irresistible, overwhelmingly convincing justice of this statement. "In law and equity no contract between two persons can be amended or rescinded without the consent of both." When a person has complied with all the regulations of the Royal College of Veterinary Surgeons, satisfied its examiners, paid his fees and received his diploma, he has entered into an implied contract with the R.C.V.S. under which he is at liberty to practise his profession for the term of his natural life. The Royal College has by its action always recognised the existenee of such a contract, and the fact that the contract is for life is the only reason which makes it worth a student's while to spend several years of study and several hundred pounds in obtaining it. This is the main argument of those who oppose the Bill, and it is unanswerable, and can only be set aside and overridden by a scandalous exercise of unjust and despotic power, which, as a matter of principle, I, in concert with so very many others, deem it our duty to resist to the utmost of our ability.—Yours faithfully. E. C. Howard, M.R.C.V.S.

Newbury, Berks, Oct. 28.

POST-GRADUATE STUDY AND DIPLOMA GRANTING BY R.C.V.S.

Sir,

I was pleased to see in a recent issue a letter on this subject from the pen of Prof. W. O. Williams, and I entirely agree with his views. As there are, or could be, many places or large centres where post-graduate teaching could take place I think the Royal College of Veterinary Surgeons should lay down regulations what subjects would be suitable for the requirements of a post-graduate diploma, of which they have now the power to grant in the form of the Fellowship. Still I think the conditions under which this diploma can now be obtained are too stringent, and do not give the College enough scope to exercise its true power. The majority of our graduates get settled into some permanent calling before the period from the time they leave College to the time they are eligible for the Fellowship classes, and when the majority are firmly settled into practice they do not feel inclined to go in for a post-graduate course of study away from their own hearths. I am of the opinion that if the Royal College could introduce a new Charter amending, among other things, the regulations under which a post-graduate student could obtain the Fellowship diploma a very much greater number would go in for the study and examination, and thus would add to the finances not only of the Royal College but also the teaching establishment. I believe if the Fellowship diploma could be obtained within a year after gaining that of the Membership a great number of young men would go in for the course of study, which should be prescribed, as soon as they graduated M.R.C.V.S. and before they sought the serious battlefields of struggling for existence. Of course if the majority of the profession objected to immature practitioners blossoming forth into fully blown Fellows so early the College should still have the power to grant them their supplication should it be thought advisable. When we frame Charters we should make them to a certain extent elastic so that we could give those in power more latitude than they have now. Certain conditions under which a Charter has been granted at one time may have become obsolete in the present or future. And although these altered conditions may be catered for in a series of Charters these documents are expensive items in the finances of the College.

As to whether power for a special diploma should be obtained, I don't think it is necessary, as we have one more ornamental than useful, unless it be for the Army Veterinary Surgeon who has certain privileges if he possess it. To the ordinary practitioner it seems to be no qualification whatever, only a higher degree or an ornament, which does not as a rule enable him to earn another £10 a year than he would if he were without it, unless in virtue of having it he should have the good fortune to become an examiner. The existing higher degree should create the demand by being made a living qualification of real utility to its holder, who should have greater privileges than the ordinary member.

The Fellowship should become a registrable degree and its holder should be entitled to hold certain appointments necessitating certain knowledge and skill. All of our graduates would not care to become meat inspectors or Veterinary Officers of Health; some would go into our Colonies and others into the Army, where a special knowledge of the tropical diseases would be necessary; finally, others would become general practitioners who would, in certain instances, have a predilection for surgery, medicine, or obstetrics. The Royal College should cater for all these, who would by the time they got the Fellowship diploma have special knowledge of their respective subjects, for which they should have credit by having inscribed on their diplomas F.R.C.V.S. in Veterinary State Medicine; F.R.C.V.S. in Tropical Diseases etc., Clinical Medicine and Surgery, Principles and Practice of Breeding and Obstetrics respectively.

It is impossible for a man to know everything well, and therefore for a man to have special knowledge of a certain subject the R.C.V.S. should induce its members to obtain this knowledge so as to increase not only the usefulness of our profession, but also its prestige. Unless we progress in the path of other callings we shall be left behind and then sink into obscurity.

Why have the human branch of medicine, applied chemistry, applied mechanics, and other arts and sciences progressed? Is it not in consequence of specialisation of their respective votaries?

ETIOLOGY OF RICKETS.

Sir,

I am afraid Mr. G. Mayall, M.R.C.V.S., is not doing justice to the medical profession when he states the medical profession has only just arrived at a treatment that he has adopted for the last eight years. To my knowledge the treatment he mentions has been in vogue in human practice for at least a quarter of a century, and I have adopted it for twenty years since reading Dr. Cheadle's brochure on the treatment of the disease in the infant. Raw meat dipped in cod-liver oil is all the necessary treatment for dogs, providing they are allowed exercise in the open. Lime-water may be useful, but all the cases I have treated improved or recovered without any lime water. Free exercise in the open air is a preventive. Children fed on skim milk go ricketty, whereas when they are fed on milk containing its normal amount of cream the disease disappears.

In the pig, calf, kid, and foal it would seem as if it were of bacterial origin for if the marrow from the long bones of animals suffering from the disease in its acute form were given to other young animals it induced the disease in them. Also, mere cohabitation in the same building produced the disease.

Rickets in children (termed by Continental authorities the English town or city disease) is comparatively rare now-a-days, thanks to the better feeding of young children, the strict surveillance of the milk supply and exercise in open spaces, so plentiful everywhere, even in small country towns. I have observed an hereditary tendency to the disease.—Yours truly, Henry Gray.

COMMUNICATIONS AND PAPERS RECEIVED.—Sir John M'Fadyean, Mr. E C. Howard.

Experiments with Bacterium Anthracis, Anthrax Vaccines and Hyperimmunization, by H. J Wilks, D.V.M. [Louisiana Bulletin No. 109.]

The Penrith Observer.

Veterinary Societies Addresses.

Alterations for this list must be duly notified by the Secretaries

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